

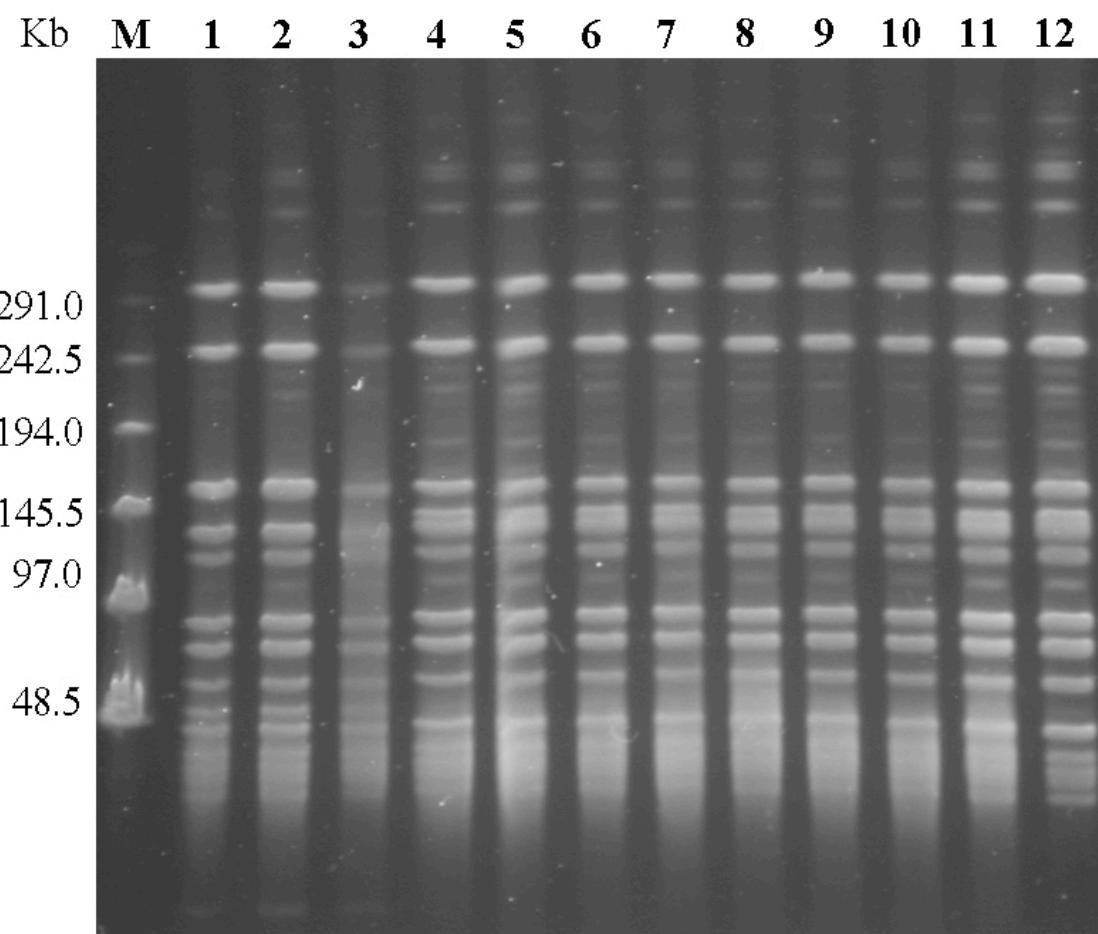
Supplemental Table 1. Substitutions in nucleotide and amino acids in a 432-bp hypervariable region on the *spaA* gene of 8 *E. rhusiopathiae* field isolates and 1 vaccine strain compared with the corresponding sequence of *E. rhusiopathiae* Fujisawa strain.

Group	Strain	Substitutions position of nucleotide (amino acid position) ¹		
		Nucleotide (aa 195)	Nucleotide (aa 203)	Nucleotide (aa 257)
Group 1	Fujisawa ²	GAT (Asp)	ATT (Ile)	CTT (Leu)
	HX130709	GAT (Asp)	<u>ATG</u> (<u>Met</u>)	<u>ATT</u> (<u>Ile</u>)
	XC130710			
	SH130723			
Group 2	YC131115			
	G ₄ T ₁₀ ³	GAT (Asp)	ATT (Ile)	<u>ATT</u> (<u>Ile</u>)
Group 3	NZ130701	<u>GCT</u> (<u>Ala</u>)	ATT (Ile)	<u>ATT</u> (<u>Ile</u>)
	YC130820			
	YC130828			
	SY091027			

¹ Asp: aspartic acid; Ala: alanine; Ile: isoleucine; Met: methionine; Leu: leucine.

² Fujisawa is a Japanese official challenge strain.

³ G₄T₁₀ is a widely used live vaccine in China.



Supplemental Fig. 1. PFGE patterns produced from the 12 archived *E. rhusiopathiae* strains during the attenuation digested with *Sma* I. Lanes: 1, F0; 2, F5; 3, F10; 4, F15; 5, F20; 6, F25; 7, F30; 8, F35; 9, F40; 10, F45; 11, F50; 12, F55; M, Lambda ladder PFG marker (N0340s, NEB).